

Description of eight new species of Muricidae (Gastropoda)

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ABSTRACT. The following new species of Muricidae are described, and compared with related species: *Attiliosa edingeri* and *Favartia eastorum* from Western Australia, *Favartia deynzeri* from the Red Sea, *Apixystus rippingalei* from Queensland, *Trophonopsis bassetti* from New South Wales and Queensland, *Orania rosadoi* from Mozambique, *Ergalatax dattiloi* from the Philippine Islands, Indonesia, and Japan, and *Thais herberti* from South Africa.

RESUME. Les espèces suivantes sont décrites et comparées avec des espèces apparentées: *Attiliosa edingeri* et *Favartia eastorum* d'Australie Occidentale, *Favartia deynzeri* de la Mer Rouge, *Apixystus rippingalei* du Queensland, *Trophonopsis bassetti* de la Nouvelle-Galles du Sud et du Queensland, *Orania rosadoi* de Mozambique, *Ergalatax dattiloi* des Philippines, d'Indonésie et du Japon, et *Thais herberti* d'Afrique du Sud.

INTRODUCTION

New species of Muricidae continue to be discovered thanks to dredging programs, expeditions, and private collecting. The eight new species described here originate from different sources: *Attiliosa edingeri*, *Favartia eastorum*, *F. deynzeri* and *Orania rosadoi* were recently discovered by private collectors; *Apixystus rippingalei* and *Trophonopsis bassetti* were collected during several cruises by HMAS *Kimbla* (1976, 1977, 1984), and FRV *Kapala* (1975, 1977, 1979) (material housed in Australian Museum, Sydney); *Ergalatax dattiloi* by private collectors, and during the MUSORSTOM I expedition (1976), by R.V. *Vauban* off the Philippine Islands, and the KARUBAR expedition (1991), by R.V. *Baruna Jaya I* in the Banda and Arafura Seas, and off the Kai and Tanimbar Islands, Eastern Indonesia (material housed in Muséum National d'Histoire Naturelle, Paris); *Thais herberti* during the Natal Museum Dredging Program, 1989 (Natal Museum, Pietermaritzburg).

Abbreviations

AMS: The Australian Museum, Sydney, Australia.
 BMNH: The Natural History Museum, London, Great Britain.
 IRSNB: Institut royal des Sciences naturelles de Belgique.
 MNHN: Muséum National d'Histoire Naturelle, Paris, France.
 NM: Natal Museum, Pietermaritzburg, South Africa.

NMNZ: Museum of New Zealand, Wellington.

QM: Queensland Museum, Brisbane, Australia.

WAM: Western Australian Museum, Perth, Australia.

dd: empty shell.

lv.: live-taken specimen.

SYSTEMATIC ACCOUNT

Family MURICIDAE Rafinesque, 1815

Subfamily MURICINAE Rafinesque, 1815

Genus *Attiliosa* Emerson, 1968

Type species (by original designation): *Coralliophila incompta* Berry, 1960 (= *Peristernia nodulosa* A. Adams, 1854); Recent, Eastern Pacific.

Remarks

When I described *Attiliosa goreensis* (HOUART, 1993) from Senegal, I recorded that four species and one subspecies of *Attiliosa* were known at that time: *A. nodulosa* (A. Adams, 1855) from the Eastern Pacific; *A. nodulifera* (Sowerby, 1841), and its subspecies *caledonica* Jousseau, 1881 from the Indo-West Pacific; *A. philippiana* (Dall, 1889) from Florida, and *A. aldridgei*, known from different localities in the Western Atlantic. Since then, in addition to *A. goreensis*, other species of *Attiliosa* have been

described *A. bozzetti* Houart, 1993 from Somalia, *A. glenduffyi* Petuch, 1993 from the Dominican Republic, and *A. ruthae* Houart, 1996 from the Philippine Islands. Moreover, in 1993 I neglected to mention *A. orri* (Cernohorsky, 1976) from the Andaman Islands.

Since the description of *A. goreensis*, I have had the opportunity to examine additional specimens of *A. nodulifera caledonica*, including a specimen from Mindanao, Philippine Islands (Fig. 31). The shell is large, almost 28 mm in length and dark brown while other specimens of *A. caledonica* are usually white. However, apart from colour, and size, I cannot separate it from typical specimens of *A. caledonica*. Since *A. nodulifera* lives throughout the Philippine Islands, it seems now that *A. caledonica* should be raised to specific rank. However, *A. nodulifera* is not yet recorded from other localities where *A. caledonica* occurs, such as New Caledonia and Polynesia (TRÖNDLE & HOUART, 1992).

Attiliosa edingeri n.sp.

Figs 1-4, 40

Type material examined.

Western Australia: off Esperance, 34-36 m, holotype WAM S.1101 and 1 paratype WAM S.1102; off Esperance, amongst weed, sand and rubble, 31 m, 1 paratype coll. A. Edinger; 1 paratype coll. R. Houart (all lv.).

Distribution.

Off Esperance, Western Australia, taken alive at 31-36 m.

Description.

Shell biconical, large for the genus, up to 35.7 mm in length at maturity; lightly built, squamous. Spire high, with 1.5 protoconch whorls and up to 6 broad, convex, weakly shouldered teleoconch whorls. Suture adpressed. Protoconch small; whorls rounded, smooth; terminal varix unknown (eroded). Axial sculpture of teleoconch whorls consisting of low, rounded, squamous ribs and of numerous growth lamellae. First whorl with 11 ribs, second to fifth with 11 or 12 ribs, last whorl with 9 ribs. Spiral sculpture of weak, squamous, rounded, primary and secondary cords and some weak, squamous threads. First whorl with 2 cords and 2 or 3 threads on shoulder, second to fourth with 2 or 3 cords and 3 or 4 threads on shoulder, penultimate with 3 or 4 cords and 3-6 threads on shoulder, last adult whorl with 12-16 cords and 4-6 shallow, squamous threads on shoulder.

Aperture large, ovate; columellar lip smooth; lip weakly erect partially, adherent at adapical extremity; anal notch shallow, broad; outer lip crenulate, with 7 weak, elongate denticles within; denticles occasionally absent. Siphonal canal short, broad, strongly

abaperturally recurved at extremity, with 2 or 3 squamous spiral cords and single thread.

Light tan or orange with darker coloured spiral band on periphery of last whorl, occasionally lighter coloured axial ribs. Aperture white.

Operculum dark brown, ovate, with terminal nucleus.

Radula with a long, broad central cusp; narrow, long, lateral cusps with broad base. Lateral teeth sickle shaped, broad.

Remarks.

Attiliosa edingeri n.sp. is highly distinctive from any known Indo-Pacific species of *Attiliosa*. It differs from *A. nodulifera*, *A. caledonica*, *A. ruthae* and *A. orri* in having a spineless shell, and from these species and *A. bozzetti*, in having more conspicuous, numerous, and squamous spiral cords and threads, a smooth columellar lip, and a broader aperture relative to the shell length. It is currently the largest known Recent species of *Attiliosa*.

Etymology.

Named for Andrew Edinger, Mandurah, Western Australia, who, together with Peter Clarckson, discovered the habitat of the new species, and sent it to me for identification.

Subfamily MURICOPSINAE

Radwin & D'Attilio, 1971

Genus *Favartia* Jousseaume, 1880

Type species (by original designation): *Murex breviculus* Sowerby, 1834; Recent, Indo-West Pacific.

Favartia eastorum n.sp.

Figs 5-7

Type material examined.

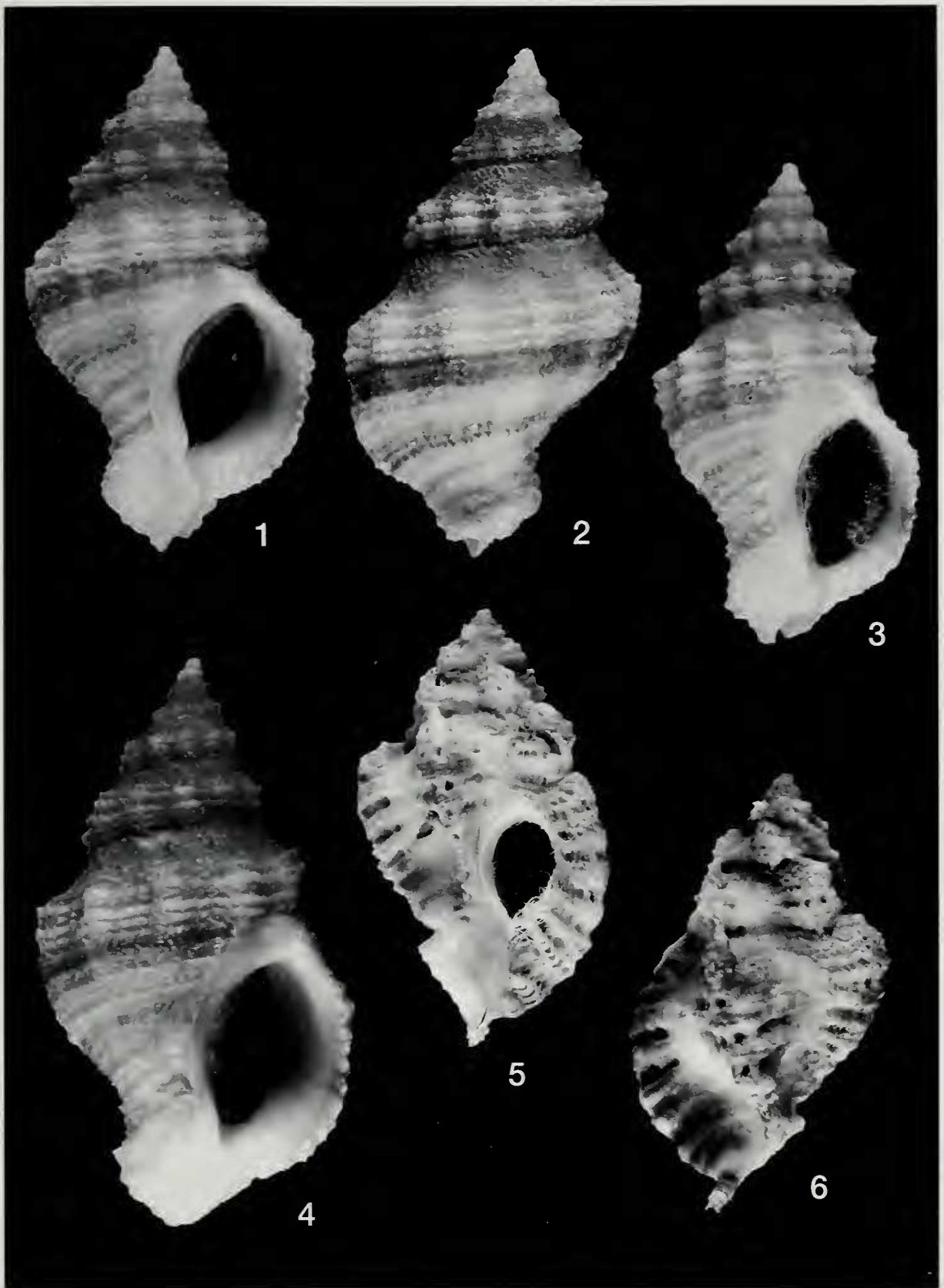
Western Australia: Peak Island, N of Exmouth Gulf, WA; 21°36' S, 114°36' E, 24-27 m, buried in silty sand pockets, shelving limestone reef with sparse covering of small sponges, gorgonians, and hard corals, holotype WAM S.1103; paratypes 1 WAM S.1104; 1 AMS C. 203326; 1 coll. R. Houart (all lv.).

Distribution.

Peak Island, N of Exmouth, Western Australia, taken alive at 24-27 m.

Description.

Shell of medium size for the genus, up to 21.5 mm in length at maturity, tuberculate. Spire high, up to 5 weakly convex, shouldered teleoconch whorls, suture



Figs 1-4. *Attiliosa edingeri* n.sp. Figs 1-2. Western Australia, off Esperance, 34-36 m, holotype WAM S.1101, 31.9 mm. Fig. 3. Western Australia, off Esperance, 34-36 m, paratype WAM S.1102, 30.3 mm. Fig. 4. Western Australia, off Esperance, 31 m, paratype coll. Edinger, 35.7 mm. **Figs 5-6.** *Favartia eastorum* n.sp., Western Australia, Peak Island, N of Exmouth Gulf, WA, 21°36' S, 114°36' E, 24-27 m, holotype WAM S.1103, 21.4 mm.

addressed Protoconch unknown (eroded) Axial sculpture of teleoconch whorls consisting of high, strong, broad, rounded varices first and second whorls with 5 or 6 varices, third and fourth with 4 or 5, last whorl with 4 varices. Spiral sculpture of high, strong, nodose primary cords, secondary cords on shoulder and siphonal canal spiral sculpture of first whorl eroded, second with 2 cords on whorl, 2 on shoulder, third with one on whorl, 2 or 3 on shoulder, fourth with 2 on whorl, 2 on shoulder, last whorl with 5 on whorl and 3 on shoulder; cords more strongly developed on axial varices, shallow or/and eroded on early whorls.

Aperture small, ovate; columellar lip flaring, narrow, smooth, rim partially erect, adherent at adapical extremity; anal notch shallow, broad, outer lip erect, crenulate, smooth within. Siphonal canal short, broad, abaperturally recurved at extremity, narrowly open, with 2 or 3 smooth, or almost obsolete spiral cords.

Light tan with darker coloured blotches, mostly on spiral cords. Aperture white.

Operculum dark brown, ovate-elongate with terminal nucleus. Radula unknown.

Remarks.

Favartia confusa Brazier, 1877 (Figs 8-9) differs in having a larger shell relative to the number of teleoconch whorls. Furthermore, in *F. confusa* the siphonal canal is markedly straighter, the spiral cords are narrower, the varices are broader and flanged adapically and abapically; abapical flange almost smooth, extending up to the extremity of the siphonal canal.

Favartia cyclostoma (Sowerby, 1841) has a broader, more shouldered shell with more numerous, narrower spiral cords, more fimbriated varices, and a more rounded aperture.

Etymology.

At the request of Peter Clarkson, the species is named for Milton and Aileen East, of Geraldton, West Australia, who first showed him a specimen from their collection.

Favartia deynzeri n.sp. Figs 10-13

Type material examined.

Red Sea: Egypt, Shab Shareer, 15-20 m, holotype IRSNB IG 28515/478. Paratypes: 1 coll. A. Deynzer; 1 coll. R. Houart (all lv.).

Distribution.

Shab Shareer, Egypt, taken alive at 15-20 m.

Description.

Shell medium sized for the genus, up to 17.18 mm in length at maturity (holotype), heavy, moderately spinose. Spire high with 1.5 protoconch whorls and up to 5 broad, angulate, weakly shouldered teleoconch whorls. Suture impressed, partially obscured by small axial lamellae. Protoconch small, globose, whorls rounded; terminal varix unknown (eroded). Axial sculpture of teleoconch whorls consisting of 4 or 5 high, strong, broad, rounded varices from first to last whorl; varices more developed on shoulder. Spiral sculpture of high, strong, squamous cords: two spiral cords on early whorls; last whorl with 5 cords, ending as short spinelike projections on varices; last whorl occasionally with minor spiral threads.

Aperture small, ovate; columellar lip narrow, flaring, smooth, rim partially erect, adherent at adapical extremity; anal notch obsolete; outer lip erect, crenulate, with 4 or 5 weak, occasionally obsolete, lirae within. Siphonal canal moderately long, broad, straight, abaperturally recurved at extremity, narrowly open, with 3 or 4 frondose, short spinelets.

Creamy-white, occasionally with light tan blotches on spiral cords or shoulder; aperture white.

Operculum dark brown, ovate, with terminal nucleus. Radula unknown.

Remarks.

Favartia deynzeri is highly distinctive from any other Indo-West Pacific or Red Sea species of *Favartia* by its form, sculpture and particular ornamentation of the siphonal canal. *F. cyclostoma* (Sowerby, 1841) and *F. sykesi* (Preston, 1904) which superficially resemble *F. deynzeri*, have a larger and broader shell, with more numerous, narrower varices, and narrower, larger siphonal canal with different ornamentation.

Etymology.

Named for Al Deynzer, Sanibel, Florida, who sent me the shells for identification.

Subfamily TROPHONINAE (*sensu lato*) Cossmann, 1903

Genus *Apixystus* Iredale, 1929

Type species (by original designation): *Trophon stimuleus* Hedley, 1907; Recent, North-East Australia.

Apixystus rippingalei n.sp. Figs 14-16, 46

Type material examined.

Queensland: E. of Lady Musgrave Island, 23°52.5' -

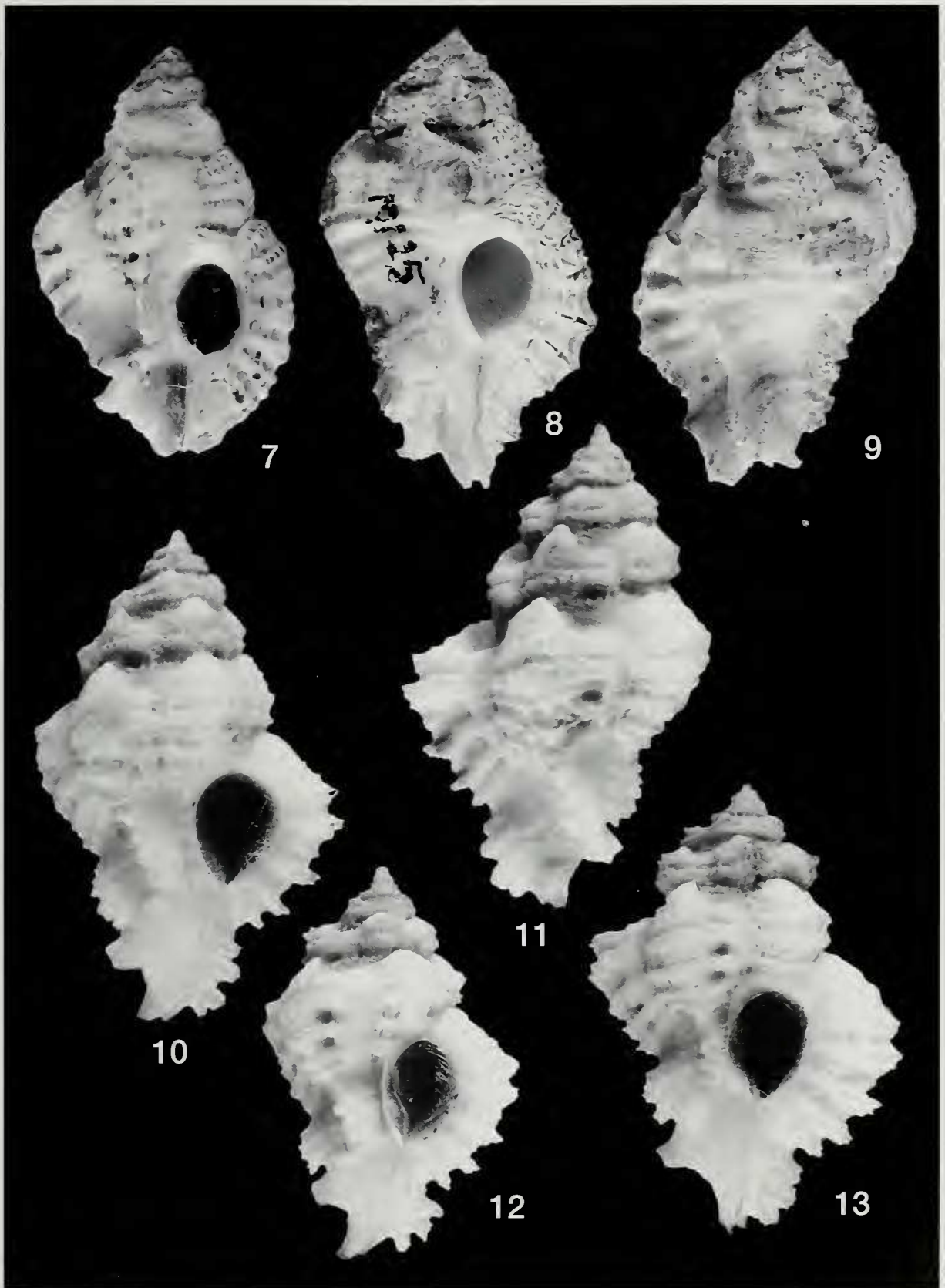


Fig. 7. *Favartia eastorum* n.sp. Western Australia, Peak Island, N of Exmouth Gulf, WA, 21°36' S, 114°36' E, 24-27 m, paratype coll. R. Houart, 18.8 mm. Figs 8-9. *Favartia confusa* (Brazier, 1877). Australia, Queensland, Darnley Id, Torres Strait, 55 m, holotype AMS C.077183, 26.8 mm. Figs 10-13. *Favartia deynzeri* n.sp. Red Sea, Egypt, Shab Shareer, 15-20 m. Figs 10-11. Holotype IRSNB IG 28515/478, 17.2 mm. Fig. 12. Paratype coll. R. Houart, 13 mm. Fig. 13. Paratype coll. A. Deynzer, 15.6 mm.

23°51.9' S, 152°42.7' - 152°41.7' E, 296 m, holotype AMS C.313232 (dd)

Paratypes 42 AMS C.313230, 1 BMNH 1996286, 1 MNHN, 1 NM L4346/T1519, 1 NMNZ M.272617, 1 QMMO 61758, 2 coll. R. Houart (all dd).

Other material examined.

Queensland: SE of Swain Reefs, 22°26.27' - 22°20.2' S, 153°17.13' - 152°17.6' E, 187 m, AMS C.321907 (37); Capricorn Channel, 23°8.6' S, 152°16.6' E, 155 m, AMS C.321954 (1); E of North West Is., Capricorn Channel, 23°15.2' S, 152°24.1' E, 284 m, AMS C.321963 (1); 24.5 ml E of Lady Musgrave Island, 23°33.7' S, 152°37' E, 339-348 m, AMS C.125294 (3); of Sandy Cape, 24°43.5' - 24°43.8' S, 153°33.4' - 153°33.3' E, 604 m, AMS C.313229, (1); off Maroochydore, 26°41.2' S, 153°38.4' E, 200 m, AMS C.321943, (1); off Cape Moreton, 27°0' S, 153°34' - 153°36' E, 128-183 m, AMS C.150076, (3) (all dd).

Distribution.

Queensland, Australia, in 128-604 m (Fig. 46).

Description.

Shell medium sized for the genus, up to 4.4 mm in length, spinose, delicate. Spire high with 1.5-1.75 protoconch whorls and up to 4 angulate, shouldered, spinose, teleoconch whorls. Suture impressed. Protoconch large, globose, whorls rounded, smooth; terminal varix shallow, delicate, thin, weakly curved. Axial sculpture of teleoconch whorls consisting of narrow, spinose lamellae: first whorl with 7 or 8 lamellae, second with 10 or 11, third with 12-14, last whorl with 14 lamellae. Spiral sculpture of low, weak, smooth cords on first teleoconch whorl, and of high, rounded cords on other whorls, ending as short spines; shoulder spines more conspicuous. First and second whorl with 2 or 3 cords, third with 3 or 4 cords, last whorl with 4 cords.

Aperture moderately small, rounded; columellar lip flaring, smooth, rim partially erect, adherent at adapical extremity; anal notch obsolete; outer lip undulate, with 4 weak or strong, elongate denticles within. Siphonal canal moderately long, 16-23 % of total shell length; open, smooth or occasionally with a single, smooth, medial spiral cord.

Translucent white.

Radula and operculum unknown.

Remarks.

The shell sculpture in species of *Apixystus* is interspecifically and intraspecifically rather uniform. *Apixystus stimuleus* (Hedley, 1907) (Fig. 17) has 9 or 10, less frilly axial lamellae on the last teleoconch whorl, the shoulder spines are broader and shorter; there are 2 spiral cords on the penultimate whorl instead of 3, and 2 or 3 low spiral cords on the last whorl, instead of the 4 strong, high cords. *A. leptos* Houart, 1995 (Figs 18-19) has 2 spiral cords on the penultimate whorl, 2 on the last whorl, occasionally with 2 low, shallow threads abapically; the spines are shorter, and the siphonal canal is shorter and more weakly recurved. *A. recurvatus* (Verco, 1909) (Figs 20-21) is relatively larger, less shouldered, with fewer, lower axial lamellae, shorter spines, and lower spiral sculpture.

Etymology.

Named in memory of the late Oswald (Ossie) H. Rippingale, Margate Beach, Queensland, friend, artist and shell lover.

Genus *Trophonopsis*

Bucquoy & Dautzenberg, 1882

Type species (by original designation): *Murex muricatus* Montagu, 1803, Recent, Mediterranean, North-East Atlantic.

Trophonopsis bassetti n.sp.

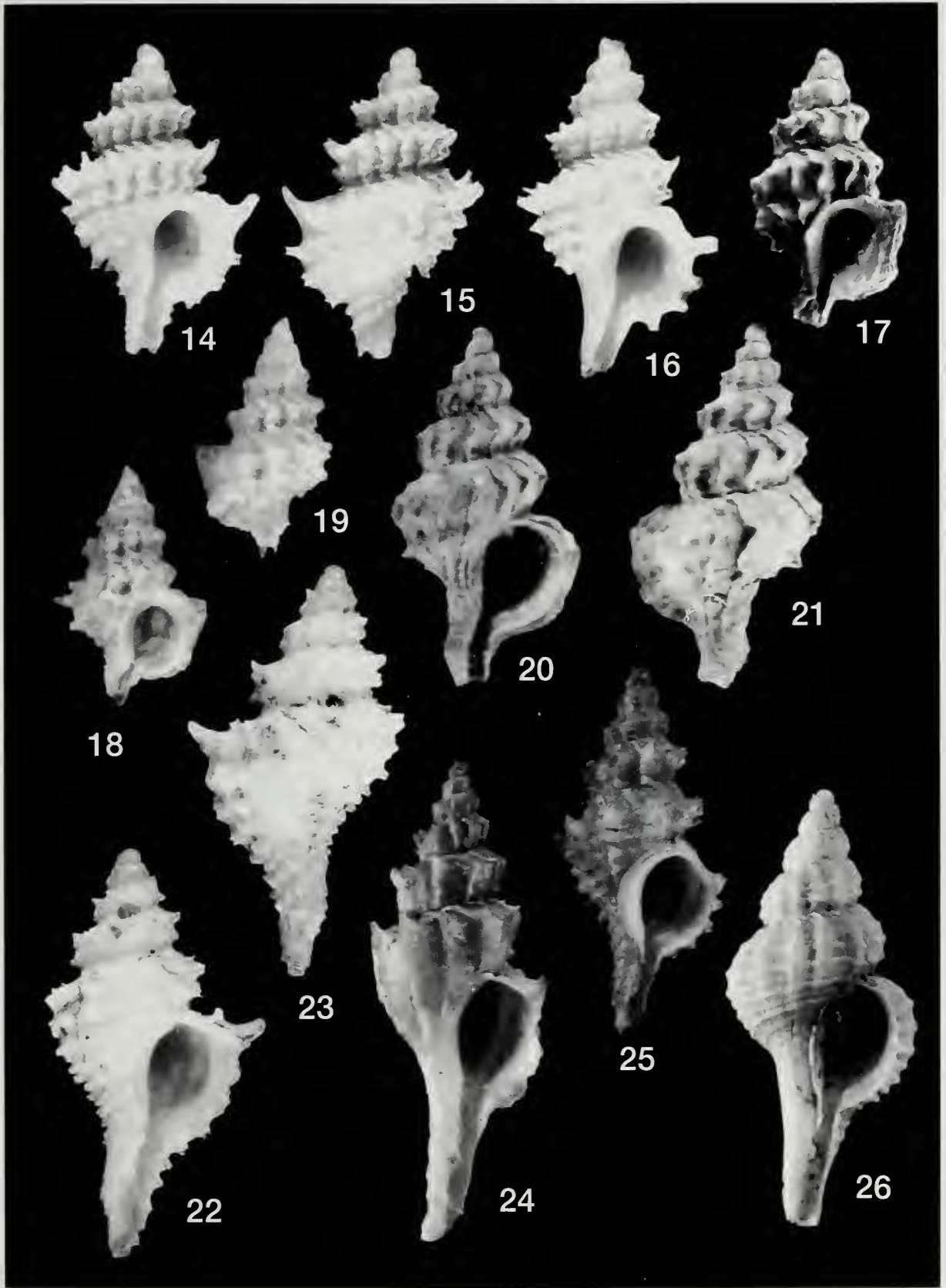
Figs 22-23, 47

Type material.

New South Wales: SE of Clarence River, 29°41' - 29°32' S, 153°45' - 153°47' E, 405-412 m, holotype AMS C.313223 (lv.), and 1 paratype coll. R. Houart (dd).

Other paratypes: Queensland: E of Lady Musgrave Island, 23°52.5' - 23°51.9' S, 152°42.7' - 152°41.7' E, 296 m, 1 AMS C.313231 (lv.); New South Wales: E of Cape Three Points, 33°28' - 33°29' S, 152°4' - 152°3' E, 457-476 m, 2 AMS C.321596 (dd); off Sydney, 34°4.2' S, 151°37.4' E, 393 m, 1 AMS C.322783 (lv.); off Ulladulla, 35°30' - 35°33' S, 150°48' - 150°47' E, 549 m, 1 AMS C.313224 (dd).

Figs 14-16. *Apixystus rippingalei* n.sp. Australia, Queensland, off Lady Musgrave Id, 296 m, Figs 14-15. Holotype AMS C.313232, 4 mm. Fig. 16. Paratype AMS C.313230, 4.4 mm. **Fig. 17.** *A. stimuleus* (Hedley, 1907). NSW, Sydney, 22 miles east of Narrabeen, 146 m, holotype AMS C.25797, 3.3 mm. **Figs 18-19.** *A. leptos* Houart, 1995. New Caledonia, holotype MNHN, 4.8 mm. **Figs 20-21.** *A. recurvatus* (Verco, 1909). NSW, off Sydney, AMS C.150080, 7 mm. **Figs 22-23.** *Trophonopsis bassetti* n.sp. Australia, NSW, SE of Clarence River, 405-412 m, holotype AMS C.313223, 8.9 mm. **Fig. 24.** *Trophonopsis plicilaminatus* (Verco, 1909). South Australia, off Beachport, 200 fms (365 m), paratype AMS C.31093, 15.9 mm. **Fig. 25.** *Trophonopsis segmentatus* (Verco, 1909). South Australia, off Cape Jaffa, 90 fms (165 m), paratype AMS C.31065, 9.5 mm. **Fig. 26.** *Trophonopsis simplex* (Hedley, 1903). NSW, Sydney, off Port Hacking, coll. R. Houart, 11 mm.



Distribution.

New South Wales and Queensland, Australia, 296-549 m, taken alive in 296-393 m (Fig. 47)

Description.

Shell medium sized for the genus, up to 13.9 mm in length at maturity (paratype AMS C.321596), slender, weakly spinose, delicate. Spire high with 1.5 protoconch whorls and up to 4.5 shouldered, spinose teleoconch whorls. Suture impressed. Protoconch large, globose; whorls rounded, glossy; terminal varix thin, low, weakly curved. Axial sculpture of teleoconch whorls consisting of low, weak lamellae. Lamellae more strongly developed on shoulder, occasionally producing short, spinelike projections: 7 or 8 lamellae on first whorl, 10-12 on second, 11-13 on third, 11-15 on last whorl. Spiral sculpture of broad, rounded cords: first, second and third whorl with 2 cords, last whorl with 5; shoulder smooth, except axial lamellae, occasionally with single, low, shallow cord on last whorl.

Aperture moderately small, angulate; inner lip almost horizontal, forming an angle of approximately 85-86° with axis of shell; columellar lip smooth, adherent; anal notch shallow; outer lip smooth, with 3 weak, low denticles within; adapical denticle more apparent. Siphonal canal medium sized or long, 29-33% of total shell length, narrow, straight, or weakly abaxially recurved, with 2 or 3, squamous, narrow spiral cords adaperturally.

Uniformly milky-white.

Operculum and radula unknown.

Remarks.

Trophonopsis segmentatus (Verco, 1909) (Fig. 25) has a more convex shell with rounded, crowded spiral cords, more numerous cords on spire whorls, and a smoother shoulder. The spire is higher, and the siphonal canal is markedly shorter, occupying 18% of the total shell length in *T. segmentatus* instead of 29-33%. The aperture of *T. segmentatus* is ovate, with a broad columellar lip, instead of triangular with a narrow columellar lip.

Trophonopsis plicilaminatus (Verco, 1909) (Fig. 24) has fewer, lower spiral cords, a smooth shoulder, and an ovate aperture.

Another species, described from New South Wales, *Trophonopsis simplex* (Hedley, 1903) (Fig. 26) has a smoother, more convex shell with a roundly-ovate aperture. The spire whorls are rounded with more numerous spiral cords (8 or 10 cords on last whorl with a higher density on abapical part of the whorl).

Etymology.

Named in memory of the late Arthur Bassett, Shark Bay, West Australia, whom I have known for many

years, and who has sent me many Australian muricids and other Australian shells

Subfamily ERGALATAXINAE

Kuroda & Habe, 1971

Genus *Orania* Pallary, 1900

Type species (by original designation): *Pseudomurex spadae* Libassi, 1889 (= *Murex fusulus* Brocchi, 1814); Pliocene to Recent, Mediterranean, eastern Atlantic.

Orania rosadoi n.sp.

Figs 27-29, 43

Type material examined.

South Mozambique: Quissico area, ex pisce, in 50-60 m, holotype NM L3374/T1463. Paratypes: 6 NM L3581/T1464; 1 MNHN; 2 coll. J. Rosado of Maputo, 1 coll R. Houart (all dd).

Distribution.

Quissico area, South Mozambique, 50-60 m (ex pisce).

Description.

Shell medium sized for the genus, up to 13.3 mm in length at maturity (paratype NM), slender, weakly spinose, lightly built. Spire high with 1.5 protoconch whorls and up to 5 angulate, shouldered, weakly spinose teleoconch whorls. Suture impressed. Protoconch small, globose; whorls rounded, smooth; terminal varix shallow, thin, weakly curved. Axial sculpture of teleoconch whorls consisting of low, broad, nodose, weakly spinose varices: 8-10 varices from first to penultimate whorl; 7 or 8 on last whorl. Spiral sculpture of high, squamous, primary and secondary cords: 2 on first whorl, 2 or 3 on second and third; 3 or 4 on fourth; 4 or 5 primary cords and 2-4 secondary cords on last whorl; carinal cord forming small, open spines at intersection with axial varices.

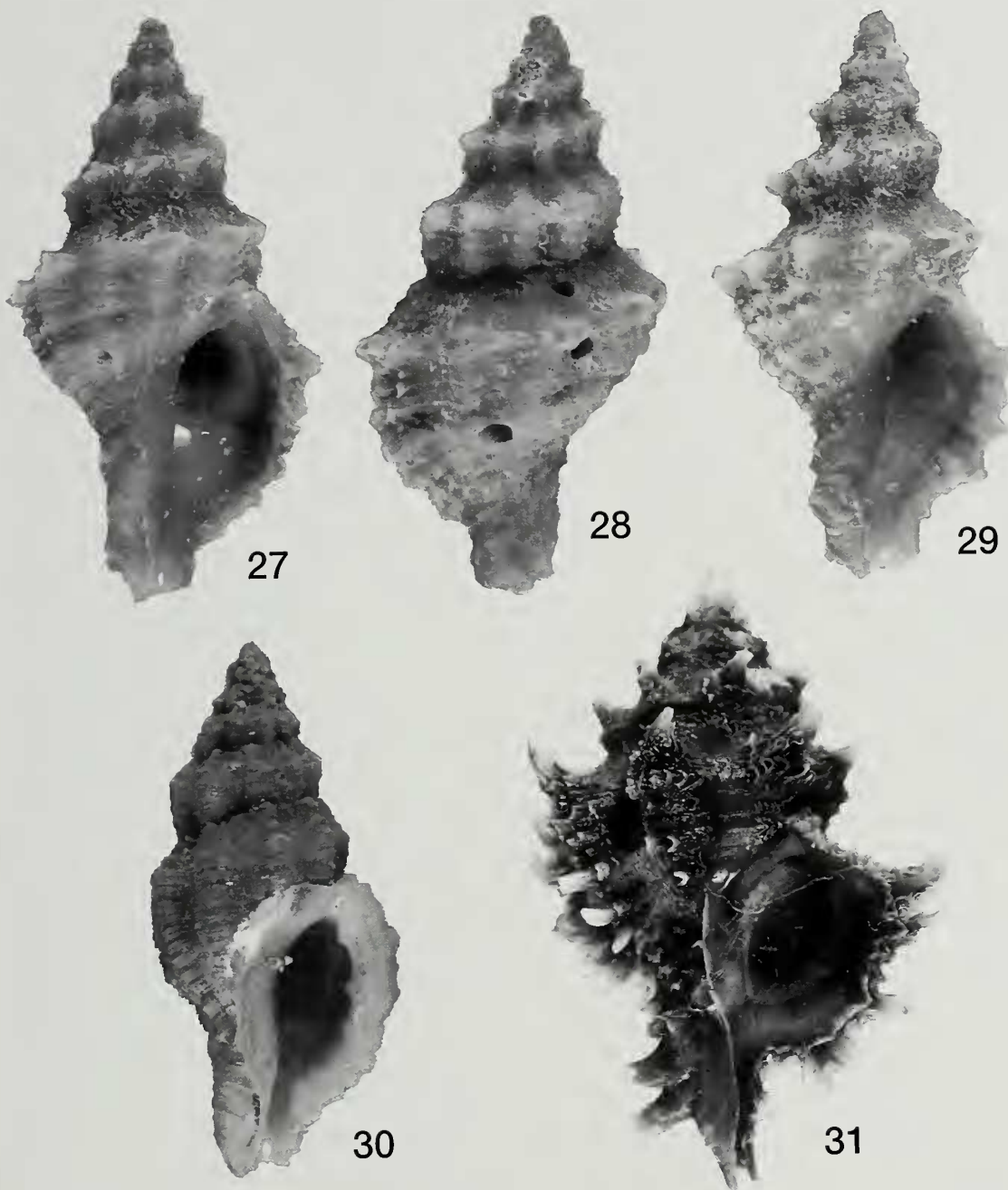
Aperture moderately large, narrow, ovate; columellar lip smooth, rim broken in all specimens; anal notch shallow, broad; outer lip with 6 or 7 elongate denticles within. Siphonal canal short, straight, open, with 3 or 4 spiral cords.

Light brown with darker coloured blotches on suture, and occasionally with darker coloured secondary spiral cords between third and fourth abapical primary cords of last whorl.

Operculum and radula unknown.

Remarks.

The classification of this new species in Ergalataxinae, and in *Orania*, is tentative, as no radula is available.



Figs 27-29. *Orania rosadoi* n.sp. Mozambique, Quissico area. Figs 27-28. Holotype NM L3374/T1463, 11.9 mm. Fig. 29. Paratype NM L3581/T1464, 10.5 mm. **Fig. 30.** *Ergalatax dattiloi* n.sp. Indonesia, Tanimbar Ids, 184-186 m, MNHN, 14.1 mm. **Fig. 31.** *Attiliosa caledonica* (Jousseaume, 1881). Philippine Islands, Mindanao, Balut Id, 200 m, coll. A. Deynzer, 27.7 mm.

Nevertheless, the size, shape, and sculpture of the shell are similar to other species included in the Ergalataxinae, and more particularly in *Orania*. Another possibility might be *Vaughtia* Houart, 1996 (Ocenebrinae), currently known exclusively from southern Africa. However, the shells of *Vaughtia* species are usually more rounded, with lower axial sculpture or none, and a broader aperture.

Orania rosadoi n.sp. resembles *O. mixta* Houart, 1995, but has fewer and broader, secondary spiral cords on last teleoconch whorl, and a paucispiral protoconch of 1.5 whorls, whereas *O. mixta* has a multispiral, conical protoconch of sinusigera type, with 3.5 whorls. Adults of *O. rosadoi* also seems to have a constantly smaller size than *O. mixta*.

Orania rosadoi n.sp. differs from *O. adiaestolos* Houart, 1995, another species with paucispiral protoconch, currently known from Zululand (South Africa), and New Caledonia, in having a narrower, more shouldered shell, with fewer secondary spiral cords on last whorl, and elongate denticles within the outer lip, rather than lirae.

Etymology.

Named for Mr. J. Rosado, Maputo, who donated the type material.

Genus *Ergalatax* Iredale, 1931

Type species (by original designation): *Ergalatax recurrens* Iredale, 1931 (= *Murex pauper* Watson, 1883); Recent, Indonesia.

Ergalatax dattiloi n.sp.

Figs 30, 35-37, 44, 45

Cytharomorula sp. - HOUART, 1986: 432, pl. 5, fig. 19 (holotype illustrated).

Ergalatax tokugawai - HOUART, 1997: 290 (not *Ergalatax tokugawai* Kuroda & Habe, 1971).

Type material examined

Philippine Islands: 13°57' N, 120°16' E, 150-159 m, holotype MNHN (lv.); Cebu, Mactan Island, 73-110 m, in coral, 1 paratype coll. R. Houart (lv.).

Other material examined.

Philippine Islands: Mactan Island, Punta Engaño, approximately 50 m, coll. F.J. Springsteen (2 lv.).

Indonesia: Tanimbar Islands, 07°59' S, 133°02' E, 184-186 m, MNHN (2 lv., 1 dd); 08°00' S, 132°59' E, 206-210 m, MNHN (4 dd).

Japan: Wakayama Pref., Minabe, 100-120 m, coll. R. Houart (1 lv.).

Distribution.

Tanimbar, Indonesia, the Philippine Islands, and South of Japan, taken alive at 50-186 m (Fig. 45)

Description.

Shell small sized for the genus, up to 17.7 mm in length at maturity, slender, tuberculate. Spire high with 3+ protoconch whorls and up to 6 weakly angulate, shouldered teleoconch whorls. Suture impressed. Protoconch conical, acute, smooth, glossy, of sinusigera type. Axial sculpture of teleoconch whorls consisting of high, strong, nodose ribs: 8 on first whorl, 8 or 9 on second, 8-10 on third, 9-11 on fourth and fifth, 7-9 on last whorl. Spiral sculpture of low, nodose, broad cords, covered by narrow, occasionally shallow threads: 2 or 3 cords on first whorl, 2 or 3 cords on second whorl, and 1 thread on shoulder, 2 or 3 on third with 1 thread and 3 or 4 threads on shoulder, 2 or 3 on fourth with 4 threads and 4-6 threads on shoulder, 3 on fifth with 16-18 threads and 8-12 threads on shoulder, 6-9 cords on last whorl with numerous threads and 12-15 threads on shoulder.

Aperture large, ovate; columellar lip smooth, occasionally with 1 or 2 low, weak knobs abapically. Rim adherent, weakly erect abapically; anal notch narrow, deep; outer lip erect, smooth, with 5 or 6 weak or strong elongate denticles within. Siphonal canal short, broadly open, with some narrow threads.

Light tan or light brown, occasionally with some weakly darker coloured blotches on axial ribs, and occasional darker coloured threads between spiral cords. Aperture white.

Operculum and radula unknown.

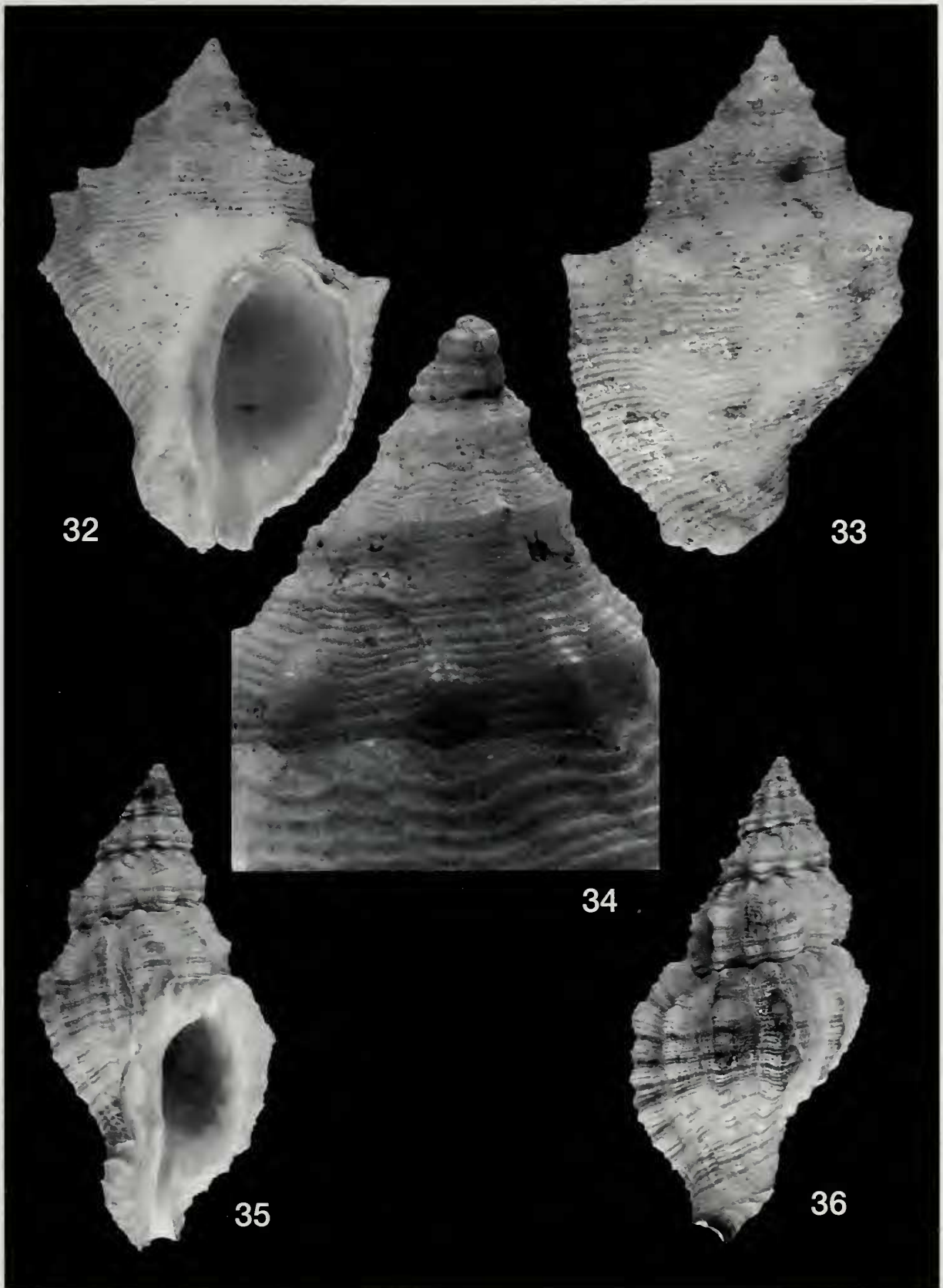
Remarks.

Ergalatax dattiloi was recently identified as *E. tokugawai* (HOUART, 1997), but from comparison on type material (holotype, Figs 38-39) they are clearly distinct species. *E. dattiloi* has more elongate teleoconch whorls, and different spiral sculpture. In *E. dattiloi* the spiral cords are broad and covered with narrow threads, in *E. tokugawai*, the spiral cords are narrow, smooth, with 2 or 3 threads between each pair of cords. The spiral threads are more numerous, and narrower in *E. dattiloi*.

The genus *Cytharomorula*, once used for the species (HOUART, 1986), resembles *Ergalatax* although having shells with more adpressed suture, higher last teleoconch whorl, and shorter siphonal canal relative to the shell length.

Etymology.

Named in memory of the late Anthony D'Attilio, San Diego, California, known throughout the world for his numerous papers on Muricoidea.



Figs 32-34. *Thais (Mancinella) herberti* n.sp. Figs 32-33. South Africa, northern Natal, off Glenton Reef, 110 m, holotype NM S2603/T1465, 31.1 mm. Fig. 34. Protoconch and first whorls. **Figs 35-36.** *Ergalatax dattiloi* n.sp. Philippine Islands, 13°57' N, 120°16' E, 150-159 m, holotype MNHN, 16.2 mm.

Subfamily RAPANINAE Gray, 1853

Genus *Thais* Röding, 1798Subgenus *Mancinella* Link, 1807

Type species (by absolute tautonomy, ICZN, opinion 911): *Mancinella aculeata* Link, 1807 (= *Volema alouina* Röding, 1798); Recent, Indo-West Pacific.

Thais (Mancinella) herberti n.sp.

Figs 32-34, 41-42

Mancinella cf. *siro* (Kuroda, 1931) - LUSSI & BRINK, 1996: 3, fig. 17.

Type material examined.

South Africa: Northern Natal, off Glenton Reed, 29°13.7' S, 32°02.0' E, 110 m, sponge, holotype NM S2603/T1465 (lv.); Natal, off Scottburgh, 100 m, 1 paratype NM B3485/T1466 (lv.).

Other paratypes: off Port Shepstone, 70 m, eroded shell + sponge rubble, 1 NM B3665/T1467 (dd); Zululand, N.E. of Gipsy Hill, 27°45.2' S, 32°39.8' E, 110 m, sponge, stones, 1 NM E3731/T1468 (lv.); Zululand, off Richards Bay, 28°59' S, 32°11' E, 100 m, 1 NM B6313/T1469 (lv.); 1 coll. R. Houart (lv.); Zululand, off Matigulu R. mouth, 29°17.1' S, 31°50.3' E, 50 m, mud, 1 NM V5136/T1471 (lv.); Zululand, off Matigulu Bluff, 29°21.4' S, 31°56.2' E, 90 m, sponge, 1 NM E8760/T1470 (lv.).

Distribution.

Natal and Zululand, South Africa, taken alive at 50-110 m, on sponge bottoms on mid-continental shelf.

Description.

Shell small for the subgenus, up to 34 mm in length at maturity (paratype NM E8760/T1470), heavy, biconical. Spire high, with 2+ protoconch whorls (partially broken), and up to 5 or 6 broad, convex, shouldered teleoconch whorls. Suture adpressed. Protoconch large, conical; whorls rounded, minutely punctate, with a narrow keel abapically. Terminal varix of sinusigera type. Axial sculpture of teleoconch whorls consisting of low, broad, weakly spinose ribs, each with one short, acute, broad spine on shoulder. Last whorl with 2 rows of short spines. First whorl with 10-12 axial ribs, second with 10, third, fourth and fifth with 9 or 10, last whorl with 7 or 8 ribs. Spiral sculpture of high, strong, squamous, primary and secondary cords: first whorl with 3 cords on whorl and 2 on shoulder, second with 3 on whorl, 4-6 on shoulder, third and fourth with 6 on whorl, 9 on shoulder, fifth whorl with 8 or 9 on whorl, 12 or 13 on shoulder, last whorl with 27 on whorl, 14-17 on shoulder.

Aperture large, broad, ovate; columellar lip smooth, adherent, weakly detached abapically; anal notch broad; outer lip crenulate, with 8-10 strong lirae within. Siphonal canal short, broad, straight, broadly open, with 5 or 6 primary and secondary, rounded spiral cords.

Light tan, aperture white.

Operculum dark brown, D-shaped, with lateral nucleus in center right. Radula with a long, broad central cusp; lateral cusps with inner lateral denticles; 3 or 4 marginal folds or weak denticles. Lateral teeth long, broad.

Remarks.

Thais (Mancinella) echinata (Blainville, 1833) differs primarily in having a more rounded shell with 4 spiral rows of short, acute spines on the last teleoconch whorl; its aperture is relatively smaller with more numerous, weaker lirae and broader columellar lip, with a less well delimited edge. The Japanese species *T. siro* (Kuroda, 1931) has 4 spiral rows of short spines, a more indistinct edge of columellar lip, more flattened spiral cords on the last teleoconch whorl, and 4 low, weakly elongate nodes within the outer apertural edge instead of 8-10 lirae. At first sight, the shell also resembles *Drupella cornus* (Röding, 1798) and *D. eburnea* (Küster, 1862), but both species are narrower, have fewer, broader spiral cords, a denticulate instead of lirate outer apertural lip, a narrower aperture, and a higher spire. Moreover, the radula of *Drupella* is quite different from that of *Thais*, and from other rapanines, in having long and slender, reed-shaped laterals.

Etymology.

Named for Dr. Dai Herbert (Natal Museum, Pietermaritzburg), known for his numerous papers on South African Trochoidea, and who took the beautiful photograph of *T. herberti* *in situ*.

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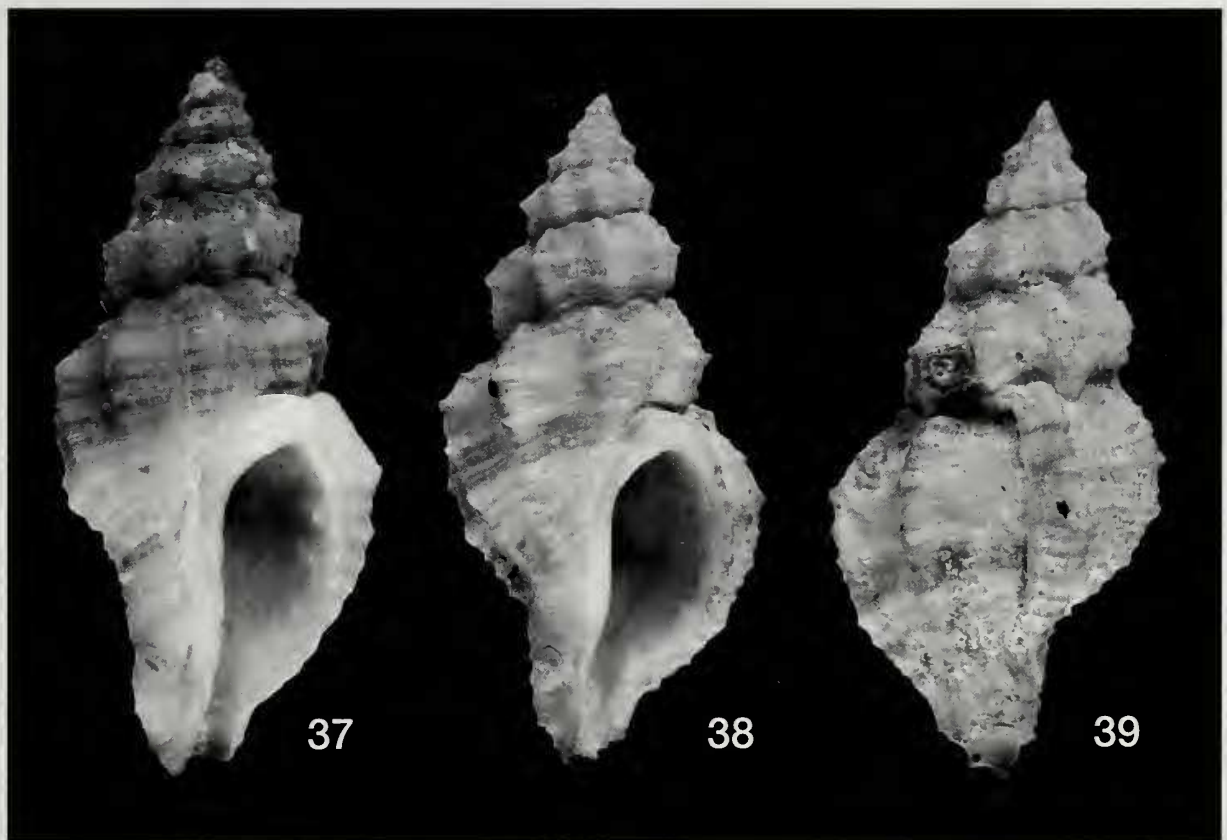
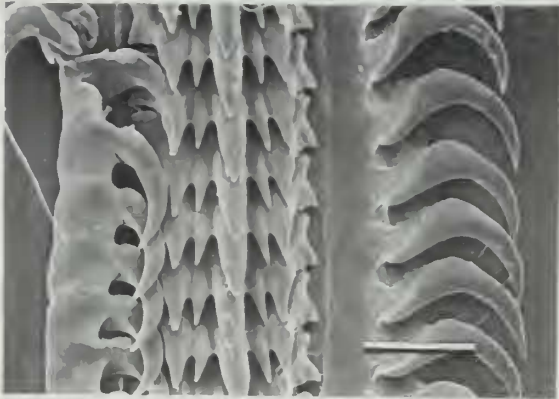


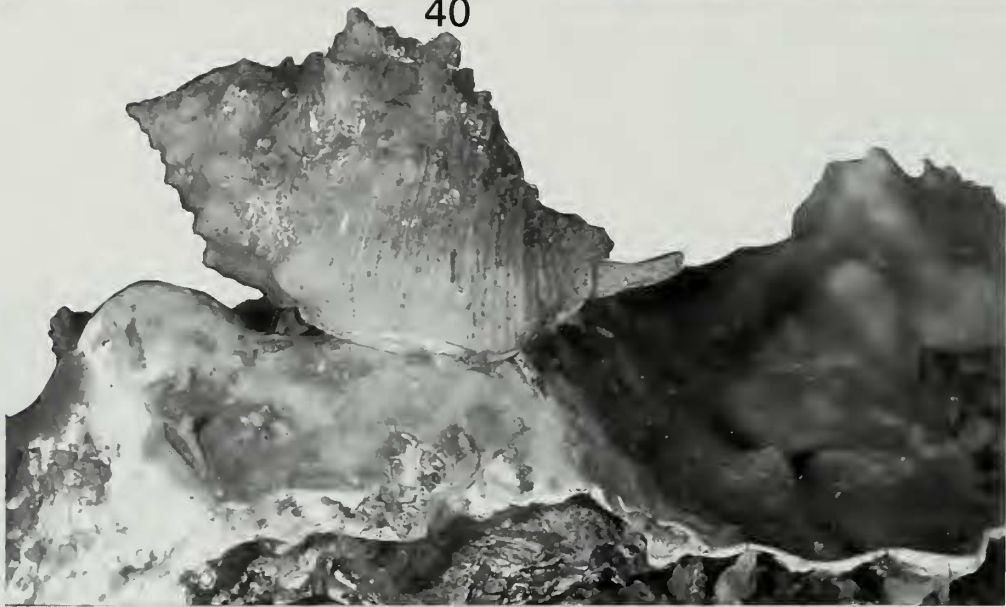
Fig. 37. *Ergalatax dattiloi* n.sp. Japan, Wakayame Pref., Minabe, 100-120 m, coll. R. Houart, 17.7 mm. **Figs 38-39.** *Ergalatax tokugawai* Kuroda & Habe, 1971. Japan, Miura Peninsula, Kanagawa Pref., WS, 2 km off Jōgashima, 78-85 m, holotype NSMT-MOR 9604, 16 mm.



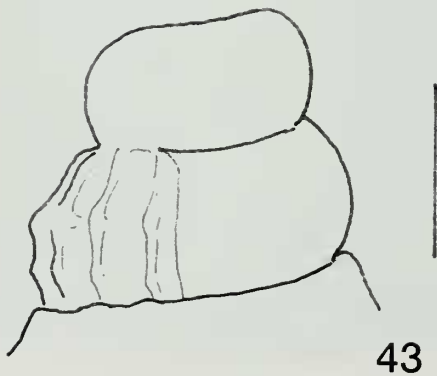
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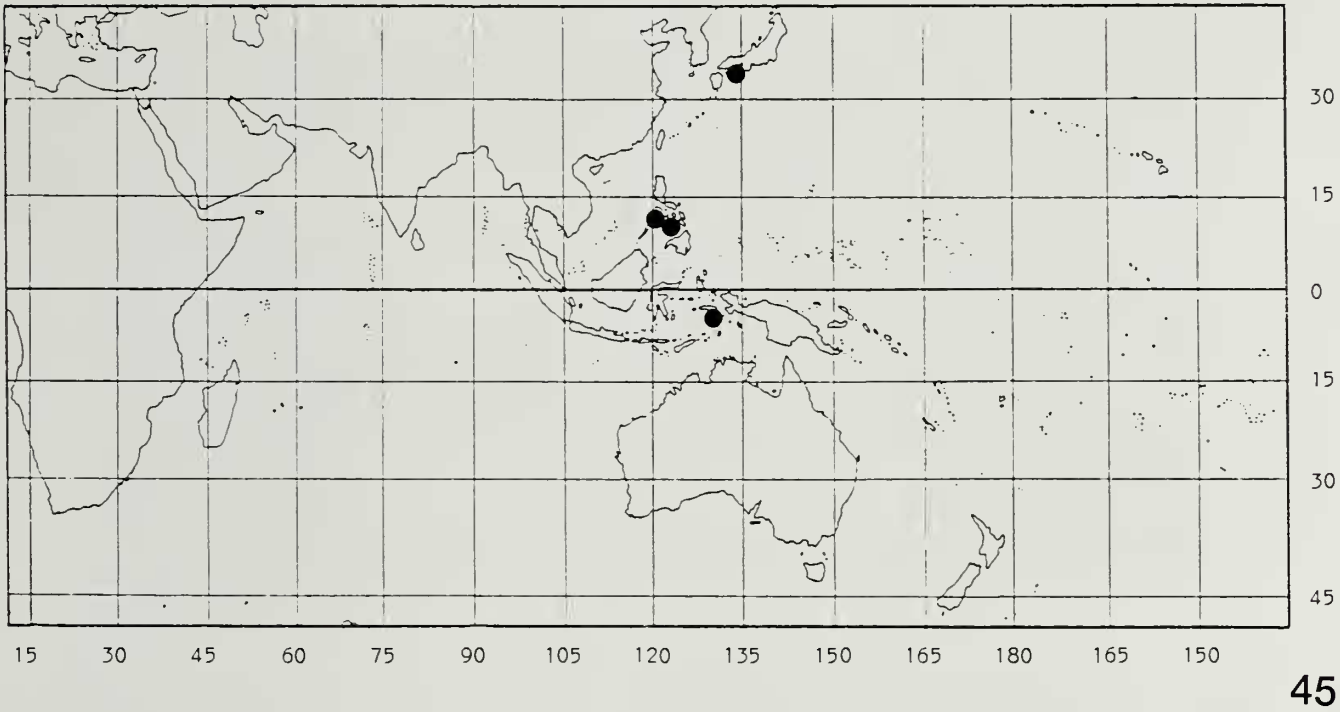


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Figs 40-41. Radulae (scale bar: 50 μ m). Fig. 40. *Attiliosa edingeri* n.sp. West Australia, off Esperance. Fig. 41. *Thais (Mancinella) herberti* n.sp. South Africa, Zululand. **Fig. 42.** *Thais (Mancinella) herberti* n.sp. *In situ*, on sponges, paratype NM E8760/T1470, photo D. Herbert. **Figs 43-44.** Protoconchs (scale bar: 0.5 mm). Fig. 43. *Orania rosadoi* n.sp. Fig. 44. *Ergalatax dattiloi* n.sp.



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Figs 45-47. Distribution maps. Fig. 45. *Ergalatax dattiloi* n.sp. Fig. 46. *Apixystus rippingalei* n.sp. Fig. 47. *Trophonopsis bassetti* n.sp.